

CLAIMS

What is claimed is:

- 5 1. An *in vivo* analyte-monitoring device for use in continuously monitoring at least one analyte the presence of an analyte within a bodily fluid bypass flow path.
2. The use of the analyte-monitoring device according to claim 1, wherein said sensor means provides continuous real-time monitoring.
- 10 3. The use of the analyte-monitoring device according to claim 1, wherein said sensor means provides periodic real-time monitoring.
4. The use of the analyte-monitoring device according to claim 1, wherein
15 said sensor means is an electrochemical sensor.
5. The use of the analyte-monitoring device according to claim 1, wherein said sensor means can monitor at least one analyte selected from the group consisting essentially of HIV, viruses, medication concentrations, cholesterol,
20 hormones, fluids, glucose, electrolytes, lactate and other monitorable analytes.
6. The use of the analyte-monitoring device according to claim 1, wherein said sensor means quantitates the amount of the analyte detected.
- 25 7. The use of the analyte-monitoring device according to claim 1, further including monitoring means operatively connected to said sensor for monitoring the amount of analytes detected by said sensor means and comparing the detected amounts to set norms.
- 30 8. The use of the analyte-monitoring device according to claim 7, further including responding means operatively communicating with said monitoring means for responding to detected amounts of analytes outside of the norms in order to bring the amounts detected back into the range of the set norms.

9. The use of the analyte-monitoring device according to claim 8, wherein said responding means includes administration means for administering to the patient at least one compound for bringing the amount of the analyte in the patient back within the set norms.

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10. The use of the analyte-monitoring device according to claim 1, wherein said bypass flow path is selected from the group consisting essentially of an extracorporeal membrane oxygenation circuit, cardiopulmonary bypass circuit, a continuous hemodialysis circuit, a continuous hemofiltration circuit, a kidney dialysis circuit and a liver dialysis circuit.

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11. A method of monitoring analytes in a patient by continuously monitoring analytes present in a bodily fluid of the patient within a bodily fluid bypass flow path.

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12. The method according to claim 11, further including the step of monitoring the amount or concentration of analytes detected and comparing the amounts detected to set norms.

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13. The method according to claim 12, further including the step of responding to the detected amount of analytes outside of set norms to bring the amount detected back to a range within the set norms.

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14. The method according to claim 13, wherein said responding step is further defined as administering to the patient at least one compound and bringing the amount of analytes detected back into the range of the set norms.

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15. The method according to claim 14, wherein said responding step includes administering to the patient insulin.

16. The method according to claim 12, wherein said monitoring step includes monitoring changes in the amount of analytes.